

IN THE CLAIMS

1. (currently amended) A data processing system, comprising:

a plurality of processing units each operable to initiate processing assigned thereto in response to reception of an execution enable signal and to produce a processing result and an execution end signal after completion of said processing;

a respective processing table for each of a plurality of applications, said processing table storing, in a predetermined order, identification information on one or more of said processing units to which said execution enable signal is to be sent, and identification information on one or more of said processing units from which said processing result and said execution end signal are to be received; and

a control unit operable to control said processing units such that, in response to receipt of a processing request from a given application, said execution enable signal is sent to said one or more processing units and said processing result and said execution end signal are received from said one or more processing units, in said order determined by said corresponding processing table for said application, and such that, in response to receipt of said execution end signal from said one or more processing units, said control unit is operable to output at least a part of said processing result received from said one or more processing units to a predetermined display unit.

2. (previously presented) The data processing system according to claim 1, wherein said processing units cooperate with one another to create frame image data with respect to divided images of a predetermined image, and to output said created frame image data as said processing result.

3. (previously presented) The data processing system according to claim 1, wherein:

each of said processing units includes drawing processing means for drawing a predetermined image, a plurality of geometry processing means for performing geometry processing based on predetermined image display instructions, and an image interface which intervenes between said drawing processing means and said geometry processing means;

said drawing processing means includes a buffer for storing, together with identification information, different drawing contexts for each of said geometry processing means, and means for reading a specific drawing context from said buffer in response to a drawing instruction from said image interface and for drawing an image based on said drawing context;

each of said geometry processing means performs geometry processing independently based on said image display instructions and sends to said image interface an image transfer request containing said identification information for said drawing context resulting from said geometry processing together with information indicative of an order of priority given thereto;

said image interface receives said image transfer requests from said geometry processing means in said order of priority to sequentially input said drawing instructions to said drawing processing means; and

a result of said image drawing performed by said drawing processing means is output as said processing result.

4. (previously presented) The data processing system according to claim 3, further comprising means for concurrently displaying said results of said image drawing respectively performed by said processing units, on one display screen.

5. (previously presented) The data processing system according to claim 3, further comprising means for sequentially displaying said results of said image drawing respectively performed by said processing units, on one display screen.

6. (previously presented) A data processing system, comprising:

respective sets of N processing units (where N is a natural number greater than one) each operable to perform cooperative processing such that each processing unit initiates processing assigned thereto in response to reception of an execution enable signal, and produces a processing result and an execution end signal after completing of said processing;

a plurality of M first arbitrator means (where M is a natural number greater than one) each for arbitrating operations of one of said respective sets of N processing units;

second arbitrator means for arbitrating operations of said M first arbitrator means;

a respective processing table for each of a plurality of applications, said processing table storing, in a predetermined order, identification information on one or more of said processing units to which said execution enable signal is to be sent, and identification information on one or more of said processing units from which said processing result and said execution end signal are to be received;

a control unit operable to control said processing units such that, in response to receipt of a processing request from a given application, said execution enable signal is sent to said one or more processing units and said processing result and said execution end signal are received from said one or more processing units, in said order determined by said corresponding processing table for said application.

7. (previously presented) The data processing system according to claim 6, wherein said processing units cooperate with one another to create frame image data with respect to divided images of a predetermined image, and to output said created frame image data as said processing result.

8. (previously presented) The data processing system according to claim 6, wherein:

each of said processing units includes drawing processing means for drawing a predetermined image, a plurality of geometry processing means for performing geometry processing based on predetermined image display instructions, and an image interface which intervenes between said drawing processing means and said geometry processing means;

said drawing processing means includes a buffer for storing, together with identification information, different drawing contexts for each of said geometry processing means, and means for reading a specific drawing context from said buffer in response to a drawing instruction from said image interface and for drawing an image based on said drawing context;

each of said geometry processing means performs geometry processing independently based on said image display instructions and sends to said image interface an image transfer request containing said identification information for said drawing context resulting from said geometry processing together with information indicative of an order of priority given thereto;

said image interface receives said image transfer requests from said geometry processing means in said order of priority to sequentially input said drawing instructions to said drawing processing means; and

a result of said image drawing performed by said drawing processing means is output as said processing result.

9. (previously presented) The data processing system according to claim 8, further comprising means for concurrently displaying said results of said image drawing respectively performed by said processing units, on one display screen.

10. (previously presented) The data processing system according to claim 8, further comprising means for sequentially displaying said results of said image drawing respectively performed by said processing units, on one display screen.

11. (currently amended) A data processing system for controlling operations of a plurality of processing units, such that each processing unit initiates processing assigned thereto in response to reception of an execution enable signal and outputs a processing result and an execution end signal after completion of said processing, said data processing system comprising:

first means for holding a respective processing table for each of a plurality of applications, said processing table storing, in a predetermined order, identification information on one or more of said processing units to which said execution enable signal is to be sent, and identification information on one or more of said processing units from which said processing result and said execution end signal are to be received;

second means for identifying a corresponding one of said processing tables in response to a processing request from a given one of said applications; and

third means for sending said execution enable signal to said one or more processing units, and for receiving said processing result and said execution end signal from said one or more processing units, in said order determined by said

identified processing table, and for outputting at least a part of said processing result received from said one or more processing units to a predetermined display unit in response to receiving said execution end signal from said one or more processing units.

12. (previously presented) The system according to claim 11, wherein each of said processing units includes a computer having a communication capability, whereby said execution enable signal and said execution end signal are exchanged between at least said processing units through a computer network.

13. (previously presented) A data processing system for controlling respective sets of N processing units (where N is a natural number greater than one) each operable to perform cooperative processing such that each processing unit initiates processing assigned thereto in response to reception of an execution enable signal, and produces a processing result and an execution end signal after completing of said processing;

a plurality of M first arbitrator means (where M is a natural number greater than one) each for arbitrating operations of one of said respective sets of N processing units; and

a second arbitrator means for arbitrating said operations of said M first arbitrator means, said system comprising:

first means for holding a respective processing table for each of a plurality of applications, said processing table storing, in a predetermined order, identification information on one or more of said processing units to which said execution enable signal is to be sent, and identification information on one or more of said processing units from which said processing result and said execution end signal are to be received;

second means for identifying a corresponding one of said processing tables in response to a processing request from a given one of said applications; and

third means for sending said execution enable signal to said one or more processing units for receiving said processing result and said execution end signal from said one or more processing units, in said order determined by said identified processing table.

14. (previously presented) The system according to claim 13, wherein each of said processing units includes a computer having a communication capability, whereby said execution enable signal and said execution end signal are exchanged between at least said processing units through a computer network.

15. (currently amended) A data processing method for controlling a plurality of processing units each initiating processing assigned thereto in response to reception of an execution enable signal and outputting a processing result and an execution end signal after completion of said processing, so that said processing results from some or all of said processing units are displayed on a display unit, said method comprising:

setting, in a predetermined order for each of a plurality of applications, identification information on one or more of said processing units to which said execution enable signal is to be sent, and identification information on one or more of said processing units from which said processing result and said execution end signal are to be received;

sending, in response to receipt of a processing request from a given application, said execution enable signal to said one or more processing units and receiving said processing result and said execution end signal from said one or more processing units, in said order determined for said application;

outputting at least a part of said processing result received from said one or more processing units to a predetermined display unit in response to receiving said execution end signal from said one or more processing units; and

displaying said at least a part of said processing result ~~at a predetermined timing on said~~ predetermined display unit.

16. (currently amended) A storage medium containing a computer program for causing a computer to operate as a data processing system which controls operations of a plurality of processing units each initiating processing assigned thereto in response to reception of an execution enable signal and outputting a processing result and an execution end signal after completion of said processing, said data processing system comprising:

first means for holding a respective processing table for each of a plurality of applications, said processing table storing, in a predetermined order, identification information on one or more of said processing units to which said execution enable signal is to be sent, and identification information on one or more of said processing units from which said processing result and said execution end signal are to be received;

second means for identifying a corresponding one of said processing tables in response to a processing request from a given one of said applications; and

third means for sending said execution enable signal to said one or more processing units, and for receiving said processing result and said execution end signal from said one or more processing units, in said order determined by said identified processing table, and for outputting at least a part of said processing result received from said one or more processing units to a predetermined display unit in response to

receiving said execution end signal from said one or more processing units.

17. (currently amended) A computer-readable recording medium ~~containing~~ having a computer program recorded thereon, said computer program being executable by ~~for causing~~ a computer for causing said computer to operate as a data processing system which controls operations of a plurality of processing units, each initiating processing assigned thereto in response to reception of an execution enable signal and outputting a processing result and an execution end signal after completion of said processing, said computer program being executable for performing a method, said method ~~causing said data processing system to execute steps comprising:~~

setting, in a predetermined order for each of a plurality of applications, identification information on one or more of said processing units to which said execution enable signal is to be sent, and identification information on one or more of said processing units from which said processing result and said execution end signal are to be received;

sending, in response to receipt of a processing request from a given application, said execution enable signal to said one or more processing units and receiving said processing result and said execution end signal from said one or more processing units, in said order determined for said application;

outputting at least a part of said processing result received from said one or more processing units to a predetermined display unit in response to receiving said execution end signal from said one or more processing units; and

displaying said at least a part of said processing result ~~at a predetermined timing on said predetermined display unit.~~